

Instructions:**Fee \$40**

1. Print these pages.
2. Circle the correct answers and transfer them to the answer sheet on last pages.
3. Page down to the last page for the verification forms and mailing instructions.
4. Use this link ([click here](#)) for reference material and your 2023 NEC code book (optional).
5. 90 questions are listed in a straight order format throughout the complete quiz.

2023 NEC Changes Part 1**This course is valid for these credentials:**

<u>Credential Description</u>	<u>Cred Code</u>	<u>Credit Hours</u>
Registered/Beginner Electrician	BE	3.0
Commercial Electrical Inspector	CEI	3.0
Industrial Journeyman Electrician	IJE	3.0
Journeyman Electrician	JE	3.0
Master Electrician	ME	3.0
Residential Journeyman Electrician	RJE	3.0
Residential Master Electrician	RME	3.0
UDC-Electrical Inspector	UEI	3.0

100 Definitions

1. All definitions will now be located in _____. In previous code cycles, definitions could be found throughout the code. In addition, and as a result, the subdivisions within Articles were removed.
 - a. subdivisions within Articles
 - b. Article 100
 - c. code sections
 - d. all of the above
2. A revision has been made to the scope of Article _____ and modified by removing language for those terms used in two or more articles.
 - a. 90
 - b. 100
 - c. 110
 - d. 210
3. This revision now requires all definitions in _____ location and the changes to the scope reflect these changes.
 - a. both
 - b. all
 - c. one
 - d all of the above

4. Definition of Class 4 circuits has been added to the NEC. Class 4 circuits are new, and the definition correlates with new article _____.
- 726 – Class 1 Power Systems
 - 726 – Class 2 Power Systems
 - 726 – Class 3 Power Systems
 - 726 – Class 4 Power Systems
5. Class 4 Circuit. The portion of the wiring system between the load side of a _____, as appropriate. Due to the active monitoring and control of the voltage and current provided, a Class 4 circuit considers safety from a fire initiation standpoint and provides acceptable protection from electric shock.
- Class 4 transmitter
 - Class 4 receiver
 - Class 4 utilization equipment
 - all of the above
6. Informational Note: A Class ____ circuit is also commonly referred to as a fault-managed power circuit.
- 1
 - 2
 - 3
 - 4
7. The NEC previously addressed Class 1, 2 and 3 Power systems and now the new Class 4 Power System. There is more info given in the NEC to include Class 4 Devices, Receivers, Transmitters, etc. If you are involved in this work, please reference _____.
- Article 726
 - NEC 70
 - none of the above
 - both a & b
8. Article 110 General Requirements for Electrical Installations. 110.26 Spaces About Electrical Equipment. Working space, and access to an egress from working space, shall be provided and maintained about all electrical equipment to permit ready and safe operation and maintenance of such equipment. Open equipment doors _____ impede access to and egress from the working space.
- are allowed to
 - shall not
 - could possibly
 - none of the above
9. Access or egress is impeded if one or more simultaneously opened equipment doors restrict working space access to be less than _____.
- 610 mm wide and 2.0 m high

- b. 24 in. wide and 6-1/2 ft high
- c. 24 in. high and 6-1/2 ft wide
- d. both a & b

10. Article 110 General Requirements for Electrical Installations. 110.29 In Sight From. Where this Code specifies that one equipment shall be “_____” another equipment.

- a. in sight from
- b. within sight from
- c. within sight of
- d. all of the above

11. The specified equipment shall be visible and not more than _____ distant from the other.

- a. 15 m
- b. 50 ft
- c. none of the above
- d. both a & b

12. 210.8 Ground-Fault Circuit-Interrupter Protection for Personnel. The GFCI requirements for receptacles in kitchens expanded to include all _____, not just those that serve countertop surfaces.

- a. 125 receptacles 150V to ground or less
- b. 125 – 250V receptacles 120V to ground or less
- c. 125 – 250V receptacles 150V to ground or less
- d. 125 receptacles 120V to ground or less

13. 210.8 Ground-Fault Circuit-Interrupter Protection for Personnel. (A) Dwelling Units. (7) Areas with sinks and permanent provisions for _____.

- a. food preparation
- b. beverage preparation
- c. cooking
- d. all of the above

14. Article 210 Branch Circuits Not Over 1000 Volts ac, 1500 Volts dc, Nominal 210.8 Ground-Fault Circuit-Interrupter Protection for Personnel.

(B) Other Than Dwelling Units. The GFCI requirements for receptacles in non-dwelling kitchens were expanded to include:

- a. ~~Kitchens – or areas with a sink and permanent provisions for either food preparation or cooking~~
- b. Areas with sinks and permanent provisions for food preparation, beverage preparation, or cooking.
- c. Buffet serving areas with permanent provisions for food serving, beverage serving, or cooking.
- d. all of the above

15. (B) Other Than Dwelling Units. The GFCI requirements for receptacles in non-dwelling kitchens were expanded to include: (7) Sinks where receptacles or cord-and-plug connected fixed or stationary appliances are installed within _____ from the top inside edge of the bowl of the sink.

- a. 1.8 m
- b. 6 ft
- c. 72"
- d. all of the above

16. Article 210 Branch Circuits Not Over 1000 Volts ac, 1500 Volts dc, Nominal 210.8 Ground-Fault Circuit-Interrupter Protection for Personnel.

(B) Other Than Dwelling Units. (13) _____, where receptacles are installed within 1.8 m (6 ft.) from the top inside edge or rim or from the conductive support framing of the vessel or container.

- a. Aquariums
- b. Bait wells
- c. Similar open aquatic vessels or containers, such as tanks or bowls
- d. all of the above

17. Article 210 Branch Circuits Not Over 1000 Volts ac, 1500 Volts dc, Nominal 210.8 Ground-Fault Circuit-Interrupter Protection for Personnel.

(D) Specific Appliances. GFCI protection shall be provided for the branch circuit or outlet supplying the following appliances rated 150 volts or less to ground and 60 amperes or less, single- or 3-phase:

- a. Automotive vacuum machines
- b. Drinking water coolers and bottle fill stations
- c. High-pressure spray washing machines
- d. all of the above

18. Article 210 Branch Circuits Not Over 1000 Volts ac, 1500 Volts dc, Nominal 210.8 Ground-Fault Circuit-Interrupter Protection for Personnel.

(D) Specific Appliances. GFCI protection shall be provided for the branch circuit or outlet supplying the following appliances rated 150 volts or less to ground and 60 amperes or less, single- or 3-phase:

- a. Tire inflation machines
- b. Vending machines
- c. Sump pumps
- d. all of the above

19. Article 210 Branch Circuits Not Over 1000 Volts ac, 1500 Volts dc, Nominal 210.8 Ground-Fault Circuit-Interrupter Protection for Personnel.

(D) Specific Appliances. GFCI protection shall be provided for the branch circuit or outlet supplying the following appliances rated 150 volts or less to ground and 60 amperes or less, single- or 3-phase:

- a. Dishwashers
- b. Electric ranges
- c. Wall-mounted ovens
- d. all of the above

20. Article 210 Branch Circuits Not Over 1000 Volts ac, 1500 Volts dc, Nominal 210.8 Ground-Fault Circuit-Interrupter Protection for Personnel.

(D) Specific Appliances. GFCI protection shall be provided for the branch circuit or outlet supplying the following appliances rated 150 volts or less to ground and 60 amperes or less, single- or 3-phase:

- a. Counter-mounted cooking units
- b. Clothes dryers
- c. Microwave ovens
- d. all of the above

21. Article 210 Branch Circuits Not Over 1000 Volts ac, 1500 Volts dc, Nominal 210.8 Ground-Fault Circuit-Interrupter Protection for Personnel.

(F) Outdoor Outlets. For dwellings, all outdoor outlets, other than those covered in 210.8(A), Exception No. 1, including outlets installed in the following locations, and supplied by single-phase branch circuits rated 150 volts or less to ground, 50 amperes or less, shall be provided with GFCI protection:

- a. Garages that have floors located at or below grade level
- b. Accessory buildings
- c. Boathouses
- d. all of the above

22. (F) Outdoor Outlets. For dwellings, all outdoor outlets, other than those covered in 210.8(A), Exception No. 1, including outlets installed in the following locations, and supplied by single-phase branch circuits rated 150 volts or less to ground, 50 amperes or less, shall be provided with GFCI protection: If equipment supplied by an outlet covered under the requirements of this section is replaced, the outlet _____ supplied with GFCI protection.

- a. may be
- b. is recommended to be
- c. shall be
- d. any of the above

23. (F) Outdoor Outlets. For dwellings, all outdoor outlets, other than those covered in 210.8(A), Exception No. 1, including outlets installed in the following locations, and supplied by single-phase branch circuits rated 150 volts or less to ground, 50 amperes or less, shall be provided with GFCI protection: Exception No. 1 GFCI Protection _____ be required on lighting outlets other than those covered in 210.8(C).

- a. shall
- b. shall not

- c. both a & b
- d. none of the above

24. (F) Outdoor Outlets. For dwellings, all outdoor outlets, other than those covered in 210.8(A), Exception No. 1, including outlets installed in the following locations, and supplied by single-phase branch circuits rated 150 volts or less to ground, 50 amperes or less, shall be provided with GFCI protection: Exception No. 2 GFCI Protection _____ be required for listed HVAC equipment.

- a. shall
- b. shall not
- c. both a & b
- d. none of the above

25. (F) Outdoor Outlets. For dwellings, all outdoor outlets, other than those covered in 210.8(A), Exception No. 1, including outlets installed in the following locations, and supplied by single-phase branch circuits rated 150 volts or less to ground, 50 amperes or less, shall be provided with GFCI protection: Exception No. 2 GFCI Protection shall not be required for listed HVAC equipment. This exception shall expire_____.

- a. September 1, 2024
- b. September 1, 2025
- c. September 1, 2026
- d. September 1, 2027

26. A revision has been made to clarify that all outdoor outlets for dwellings, other than those covered in 210.8(A), Exception No. 1, including outlets installed in_____, are required to have GFCI protection for personnel.

- a. garages that have floors located at or below grade level
- b. accessory building
- c. boathouses
- d. all of the above

27. Article 210 Branch Circuits Not Over 1000 Volts ac, 1500 Volts dc, Nominal 210.11 Branch Circuits Required. (C) Dwelling Units.

(4) Garage Branch Circuits. In addition to the number of branch circuits required by other parts of this section, at least one 120-volt, 20-ampere branch circuit shall be installed to supply receptacle outlets, including those required by _____ for attached garages and in detached garages with electric power. This circuit shall have no other outlets.

- a. 210.50(G)(1)
- b. 210.51(G)(1)
- c. 210.52(G)(1)
- d. 210.53(G)(1)

28. 210.11 Branch Circuits Required. (C) Dwelling Units. (4) Garage Branch Circuits. Additional branch circuits rated _____ shall be permitted to serve receptacle outlets other than those required by 210.52(G)(1).

- a. 15 amperes
- b. greater than 15 amperes
- c. both a or b
- d. none of the above

29. 210.11 Branch Circuits Required. (C) Dwelling Units. (4) Garage Branch Circuits. Exception No. 1: This circuit shall be permitted to supply outdoor receptacle outlets.

- a. true
- b. false

30. 210.11 Branch Circuits Required. (C) Dwelling Units. (4) Garage Branch Circuits. Exception No. 2: Where the 20-ampere circuit supplies a _____ vehicle bay garage, outlets for other equipment within the same garage shall be permitted to be supplied in accordance with 210.23(A)(1) and (A)(2).

- a. single
- b. double
- c. multi
- d. none of the above

31. Article 210 Branch Circuits Not Over 1000 Volts ac, 1500 Volts dc, Nominal 210.12 Arc-Fault Circuit-Interrupter Protection. (D) Other Occupancies. All 120-volt, single-phase, 10-, 15-, and 20-ampere branch circuits supplying outlets or devices installed in the following locations shall be protected by any of the means described in 210.12(A)(1) through (A)(6):

- a. Guest rooms and guest suites of hotels
- b. Guest rooms and guest suites of motels
- c. both a & b
- d. none of the above

32. Article 210 Branch Circuits Not Over 1000 Volts ac, 1500 Volts dc, Nominal 210.12 Arc-Fault Circuit-Interrupter Protection. (D) Other Occupancies. All 120-volt, single-phase, 10-, 15-, and 20-ampere branch circuits supplying outlets or devices installed in the following locations shall be protected by any of the means described in 210.12(A)(1) through (A)(6):

- a. Areas used exclusively as patient sleeping rooms in nursing homes
- b. Areas used exclusively as patient sleeping rooms in limited-care facilities
- c. both a & b
- d. none of the above

33. Article 210 Branch Circuits Not Over 1000 Volts ac, 1500 Volts dc, Nominal

210.12 Arc-Fault Circuit-Interrupter Protection. (D) Other Occupancies. All 120-volt, single-phase, 10-, 15-, and 20-ampere branch circuits supplying outlets or devices installed in the following locations shall be protected by any of the means described in 210.12(A)(1) through (A)(6):

- a. Areas designed for use exclusively as sleeping quarters in fire stations, police stations
- b. Areas designed for use exclusively as sleeping quarters in ambulance stations, rescue stations
- c. Areas designed for use exclusively as sleeping quarters in ranger stations, and similar locations
- d. all of the above

34. Article 210 Branch Circuits Not Over 1000 Volts ac, 1500 Volts dc, Nominal

210.17 Guest Rooms and Guest Suites. Guest rooms and guest suites in the following occupancies that are provided with permanent provisions for cooking shall have branch circuits installed to meet the rules for dwelling units:

- a. Hotels
- b. Motels
- c. Assisted living facilities
- d. all of the above

35. Article 210 Branch Circuits Not Over 1000 Volts ac, 1500 Volts dc, Nominal

210.17 Guest Rooms and Guest Suites. Guest rooms and guest suites in the following occupancies that are provided with permanent provisions for cooking shall have branch circuits installed to meet the rules for dwelling units:

Informational Note No. 1: See 210.11(C)(2) and 210.52(F), Exception No. 2, for information on _____.

- a. laundry branch circuits
- b. receptacle outlets
- c. both a & b
- d. none of the above

36. 210.23 Permissible Loads, Multiple-Outlet Branch Circuits. (A) 10-Ampere Branch Circuits. A 10-ampere branch circuit shall comply with the requirements of 210.23(A)(1) and (A)(2). (1) Loads Permitted for 10-Ampere Branch Circuits. A 10-ampere branch circuit shall be permitted to supply one or more of the following:

- a. Lighting outlets
- b. Dwelling unit exhaust fans on bathroom or laundry room lighting circuits
- c. A gas fireplace unit supplied by an individual branch circuit
- d. all of the above

37. (2) Loads Not Permitted for 10-Ampere Branch Circuits. A 10-ampere branch circuit shall not supply any of the following:

- a. Receptacle outlets

- b. Fixed appliances, except as permitted for individual branch circuits
- c. both a & b
- d. none of the above

38. (2) Loads Not Permitted for 10-Ampere Branch Circuits. A 10-ampere branch circuit shall not supply any of the following:

- a. Garage door openers
- b. Laundry equipment
- c. both a & b
- d. none of the above

39. 240.4 Protection of Conductors. (D) Small Conductors. Unless specifically permitted in 240.4(E) or (G), the overcurrent protection shall not exceed that required by 240.4(D)(1) through (D)(8) after any correction factors for _____ have been applied.

- a. ambient temperature
- b. number of conductors
- c. both a & b
- d. none of the above

40. 240.4 Protection of Conductors. (D) Small Conductors. (3) 14 AWG Copper-Clad Aluminum. 10 amperes, provided all the following conditions are met:

- a. Continuous loads do not exceed 4 amperes
- b. Continuous loads do not exceed 6 amperes
- c. Continuous loads do not exceed 8 amperes
- d. Continuous loads do not exceed 10 amperes

41. 240.4 Protection of Conductors. (D) Small Conductors. (3) 14 AWG Copper-Clad Aluminum. 10 amperes, provided all the following conditions are met: (2) Overcurrent protection is provided by one of the following:

- a. Branch-circuit-rated circuit breakers are listed and marked for use with 14 AWG copper-clad aluminum conductor.
- b. Branch-circuit-rated fuses are listed and marked for use with 14 AWG copper-clad aluminum conductor.
- c. both a & b
- d. none of the above

42. Article 310 Conductors for General Wiring 310.3 Conductors.

(A) Minimum Size of Conductors. The minimum size of conductors for voltage ratings up to and including 2000 volts shall be _____, except as permitted elsewhere in this Code.

- a. 14 AWG copper
- b. 12 AWG copper-clad aluminum
- c. 12 AWG aluminum
- d. all of the above

43. 210.52(C) Countertops and Work Surfaces. (2) Island and Peninsular Countertops and Work Surfaces. Receptacle outlets, if installed to serve an island or peninsular countertop or work surface, shall be installed in accordance with _____.

- a. 210.52(C)(1)
- b. 210.52(C)(2)
- c. 210.52(C)(3)
- d. 210.52(C)(4)

44. 210.52(C) Countertops and Work Surfaces. If a receptacle outlet is not provided to serve an island or peninsular countertop or work surface, provisions shall be provided at the island or peninsula for future addition of a receptacle outlet to serve the _____.

- a. island
- b. peninsular countertop
- c. work surface
- d. all of the above

45. 210.52(C) Countertops and Work Surfaces. (3) Receptacle Outlet Location. Receptacle outlets shall be located in one or more of the following:

- a. On or above, but not more than 500mm (20 in.) above, a countertop or work surface.
- b. In a countertop using receptacle outlet assemblies listed for use in countertops
- c. In a work surface using receptacle outlet assemblies listed for work surfaces or listed for use in countertops
- d. all of the above

46. (G) Basements, Garages, and Accessory Buildings. For one- and two-family dwellings, and multifamily dwellings, at least one receptacle outlet shall be installed in the areas specified in 210.52(G)(1) through (G)(3). These receptacles shall be in addition to receptacles required for specific equipment. Receptacles supplying only a permanently installed premises _____ shall not be considered as meeting these requirements.

- a. backup system
- b. security system
- c. alarm system
- d. safety system

47. 210.70 Lighting Outlets Required. Lighting outlets shall be installed where specified in 210.70(A), (B), and (C). The switch or wall-mounted control device _____ rely exclusively on a battery unless a means is provided for automatically energizing the lighting outlets upon battery failure.

- a. shall
- b. shall not

c. should

d. may

48. 210.70 Lighting Outlets Required. (A) Dwelling Units. (1) Habitable Rooms, Kitchens, Laundry Areas, and Bathrooms. At least one lighting outlet controlled by a listed wall-mounted control device shall be installed in every habitable room, _____.

a. kitchen

b. laundry area

c. bathroom

d. all of the above

49. 210.70 Lighting Outlets Required. The wall-mounted control device shall be located _____ an entrance to the room on a wall.

a. near

b. neighboring

c. adjoining

d. none of the above

50. 210.70 Lighting Outlets Required. Exception No. 1: In other than _____, one or more receptacles controlled by a listed wall-mounted control device shall be permitted in lieu of lighting outlets.

a. kitchens

b. laundry areas

c. bathrooms

d. all of the above

51. 210.70 Lighting Outlets Required. (A) Dwelling Units. (2) Additional Locations. Additional lighting outlets shall be installed in accordance with the following: (1) At least one lighting outlet controlled by a listed wall-mounted control device shall be installed in hallways, stairways, _____ with electric power.

a. attached garages

b. detached garages

c. accessory buildings

d. all of the above

52. 210.70 Lighting Outlets Required. (2) For dwelling units, attached garages, and detached garages with electric power, at least one exterior lighting outlet controlled by a listed wall-mounted control device shall be installed to provide illumination on the exterior side of outdoor _____ with grade-level access.

a. entrances

b. exits

c. both a or b

d. none of the above

53. 210.70 Lighting Outlets Required. A vehicle door in a garage _____ be considered as an outdoor entrance or exit.

- a. shall
- b. shall not
- c. may
- d. none of the above

54. 210.70 Lighting Outlets Required. Exception to (2): For an outdoor, grade bulkhead door with stairway access to a sub-grade-level basement, the required lighting outlet that provides illumination on the stairway steps shall be permitted to be located in the basement interior within _____ of the bottommost stairway riser.

- a. 5 ft vertically
- b. 1.5 m horizontally
- c. 5 ft horizontally
- d. both b & c

55. 210.70 Lighting Outlets Required. Exception to (2): This interior lighting outlet shall be permitted to be controlled by a listed wall-mounted control device or by a unit switch of the _____.

- a. interior luminaire
- b. interior lampholder
- c. both a or b
- d. none of the above

56. 210.70 Lighting Outlets Required. (3) Where lighting outlets are installed for an interior stairway with six or more risers between floor levels, there shall be a listed wall-mounted control device at each _____ that includes a stairway entry to control the lighting outlets.

- a. floor level
- b. landing level
- c. both a & b
- d. none of the above

57. 210.70 Lighting Outlets Required. Exception to (1), (2), and (3): Remote, central, or automatic control of lighting shall be permitted _____.

- a. in hallways
- b. in stairways
- c. at outdoor entrances
- d. all of the above

58. 210.70 Lighting Outlets Required. Dimmer control of lighting outlets installed in accordance with 210.70(A)(2)(3) shall not be permitted unless the listed control devices can provide dimming control to _____ brightness at each control location for the interior stairway illumination.

- a. adequate

- b. minimum
- c. satisfactory
- d. none of the above

59. Article 215 Feeders 215.15 Barriers. Barriers shall be placed such that no energized uninsulated, ungrounded busbar or terminal is exposed to inadvertent contact by persons or maintenance equipment while servicing load terminations in _____.

- a. panelboards
- b. switchboards
- c. switchgear
- d. all of the above

60. Article 215 Feeders 215.15 Barriers. Barriers shall be placed such that no energized uninsulated, ungrounded busbar or terminal is exposed to inadvertent contact by persons or maintenance equipment while servicing load terminations in motor control centers supplied by feeder taps in _____.

- a. 240.21(B)
- b. 240.31(B)
- c. 240.41(B)
- d. 240.51(B)

61. Article 215 Feeders 215.15 Barriers. Barriers shall be placed such that no energized uninsulated, ungrounded busbar or terminal is exposed to inadvertent contact by persons or maintenance equipment while servicing load terminations in transformer secondary conductors in 240.21(C) when the disconnecting device, to which the tap conductors are terminated, is in the _____ position.

- a. closed
- b. open
- c. up right
- d. none of the above

62. Articles: *215 Feeders; *225 Outside Branch Circuits and Feeders; *230 Services 215.18; 225.42; 230.67 Surge Protection.

(A) Surge-Protective Device. Where a feeder and all services supplies any of the following, a surge-protective device (SPD) shall be installed:

- a. Dwelling units
- b. Dormitory units
- c. Dwelling accessory building
- d. both a & b

63. Articles: *215 Feeders; *225 Outside Branch Circuits and Feeders; *230 Services 215.18; 225.42; 230.67 Surge Protection.

(A) Surge-Protective Device. Where a feeder and all services supplies any of the following, a surge-protective device (SPD) shall be installed:

- a. Guest rooms of hotels and motels

- b. guest suites of hotels and motels
- c. both a & b
- d. none of the above

64. Articles: *215 Feeders; *225 Outside Branch Circuits and Feeders; *230 Services 215.18; 225.42; 230.67 Surge Protection. (A) Surge-Protective Device. Where a feeder and all services supplies any of the following, a surge-protective device (SPD) shall be installed:

- a. Areas of nursing homes
- b. Areas of limited-care facilities used exclusively as patient sleeping rooms
- c. both a & b
- d. none of the above

65. Articles: *215 Feeders; *225 Outside Branch Circuits and Feeders; *230 Services 215.18; 225.42; 230.67 Surge Protection. (A) Surge-Protective Device. (B) Location. The SPD shall be installed in or adjacent to distribution and service equipment, connected to the load side of the feeder, that contains branch circuit overcurrent protective device(s) that supply the location specified in _____.

- a. 215.18(A)
- b. 225.42(A)
- c. 230.67(A)
- d. all of the above

66. Articles: *215 Feeders; *225 Outside Branch Circuits and Feeders; *230 Services 215.18; 225.42; 230.67 Surge Protection. (A) Surge-Protective Device. (B) Location. Informational Note: Surge protection is most effective when _____ to the branch circuit.

- a. closest
- b. bordering
- c. farthest
- d. neighboring

67. Articles: *215 Feeders; *225 Outside Branch Circuits and Feeders; *230 Services 215.18; 225.42; 230.67 Surge Protection. (A) Surge-Protective Device. (B) Location. Informational Note: Surges can be generated from multiple sources including, but not limited to _____.

- a. lightning
- b. the electric utility
- c. utilization equipment
- d. all of the above

68. Articles: *215 Feeders; *225 Outside Branch Circuits and Feeders; *230 Services 215.18; 225.42; 230.67 Surge Protection. (A) Surge-Protective Device. (C) Type. The SPD shall be a Type _____ SPD.

- a. 1
- b. 2
- c. 3
- d. both a & b

69. Articles: *215 Feeders; *225 Outside Branch Circuits and Feeders; *230 Services 215.18; 225.42; 230.67 Surge Protection. (A) Surge-Protective Device. (D) Replacement. Where the distribution equipment supplied by the _____ is replaced, all of the requirements of this section shall apply.

- a. circuit
- b. feeder
- c. multi branch circuit
- d. all the above

70. Articles: *215 Feeders; *225 Outside Branch Circuits and Feeders; *230 Services 215.18; 225.42; 230.67 Surge Protection. (A) Surge-Protective Device. (E) Ratings. SPDs shall have a nominal discharge current rating (In) of not less than _____.

- a. 5 kA
- b. 8 kA
- c. 10 kA
- d. None of the above

71. Articles: *215 Feeders; *225 Outside Branch Circuits and Feeders; *230 Services 215.18; 225.42; 230.67 Surge Protection. (A) Surge-Protective Device. Type _____ SPDs are for the supply side of service entrance.

- a. 1
- b. 2
- c. 3
- d. 5

72. Articles: *215 Feeders; *225 Outside Branch Circuits and Feeders; *230 Services 215.18; 225.42; 230.67 Surge Protection. (A) Surge-Protective Device. Type _____ SPDs are typically surge receptacles or cord connected point-of use devices. Leviton offers a complete assortment in duplex and quad in many styles and colors.

- a. 1
- b. 2
- c. 3
- d. 4

73. Articles: *215 Feeders; *225 Outside Branch Circuits and Feeders; *230 Services 215.18; 225.42; 230.67 Surge Protection. (A) Surge-Protective Device. Type _____ SPDs are typically service entrance SPD panels or branch circuit SPD panels that are connected on the load side of the service disconnect overcurrent device (main service panel).

- a. 1
- b. 2
- c. 3
- d. 5

74. Articles: *215 Feeders; *225 Outside Branch Circuits and Feeders; *230 Services 215.18; 225.42; 230.67 Surge Protection. (A) Surge-Protective Device. Type ____ SPDs are Discrete component surge suppressors connected by its leads or provided with an enclosure with mounting means and wiring terminations.

- a. 1
- b. 2
- c. 3
- d. 5

75. Articles: *215 Feeders; *225 Outside Branch Circuits and Feeders; *230 Services 215.18; 225.42; 230.67 Surge Protection. (A) Surge-Protective Device. Type ____ SPDs are component assemblies consisting of one or more Type 5 components together with a disconnect (integral or external) or a means of complying with the limited current tests in UL 1449.

- a. 1
- b. 2
- c. 3
- d. 4

76. Articles: *215 Feeders; *225 Outside Branch Circuits and Feeders; *230 Services 215.18; 225.42; 230.67 Surge Protection. (A) Surge-Protective Device. Type _____ SPDs shunt external surges that originate from utilities or disturbances outside the home or facility.

- a. 1
- b. 2
- c. both a & b
- d. 3

77. Articles: *215 Feeders; *225 Outside Branch Circuits and Feeders; *230 Services 215.18; 225.42; 230.67 Surge Protection. (A) Surge-Protective Device. Type ____ SPDs can protect for both internal and external surges when located at the branch.

- a. 1
- b. 2
- c. both a & b
- d. 3

78. Articles: *215 Feeders; *225 Outside Branch Circuits and Feeders;

*230 Services 215.18; 225.42; 230.67 Surge Protection. (A) Surge-Protective Device. Type ____ SPDs can shunt surges that originated internally within the home or facility.

- a. 1
- b. 2
- c. both a & b
- d. 3

79. Articles: *215 Feeders; *225 Outside Branch Circuits and Feeders; *230 Services 215.18; 225.42; 230.67 Surge Protection. (A) Surge-Protective Device. So a comprehensive strategy for surge protection typically involves a Type 1 or Type 2 SPD and also a Type ____ SPD at point of use.

- a. 1
- b. 2
- c. both a & b
- d. 3

80. 220.53 Appliance Load — Dwelling Unit(s). Applying a demand factor of ____ percent to the nameplate rating load of four or more appliances rated 1/4 hp or greater, or 500 watts or greater, that are fastened in place, and that are served by the same feeder or service in a one-family, two-family, or multifamily dwelling shall be permitted.

- a. 70
- b. 75
- c. 80
- d. 100

81. 220.53 Appliance Load — Dwelling Unit(s). This demand factor shall not apply to the following:

- a. Household electric cooking equipment that is fastened in place
- b. Clothes dryers
- c. Space heating equipment
- d. all of the above

82. 220.53 Appliance Load — Dwelling Unit(s). This demand factor shall not apply to the following:

- a. Air-conditioning equipment
- b. Electric vehicle supply equipment (EVSE)
- c. Solar panels
- d. both a & b

83. 220.57 Electric Vehicle Supply Equipment (EVSE) Load. The EVSE load shall be calculated at _____, whichever is larger.

- a. either 7200 watts (volt-amperes)
- b. the nameplate rating of the equipment
- c. both a or b

d. none of the above

84. 220.57 Electric Vehicle Supply Equipment (EVSE) Load. Expert Analysis
A revision has been made to clarify that electric vehicle supply equipment (EVSE) shall _____ included in the fixed appliance load when performing calculations for the appliance load in a one-family, two-family, or multifamily dwelling.

a. not be

b. be

c. could possibly

d. none of the above

85. 220.57 Electric Vehicle Supply Equipment (EVSE) Load. To do load calculations for EVSE, a new section has been added that dictates that the load shall be calculated at either 7200 watts (volt-amperes) or the nameplate of the equipment, whichever is larger. The 7200 watt (volt-amperes) minimum requirement is based on a _____.

a. 20 ampere, 120 volt, single-phase circuit

b. 30 ampere, 120 volt, single-phase circuit

c. 30 ampere, 240 volt, single-phase circuit

d. 40 ampere, 240 volt, single-phase circuit

86. Article 220 Branch-Circuit, Feeder, and Service Load Calculations 220.70 Energy Management Systems (EMSs). If an energy management system (EMS) is used to limit the current to a feeder or service in accordance with 750.30, a single value equal to the maximum ampere setpoint of the EMS shall be permitted to be used in load calculations for the _____.

a. feeder

b. service

c. both a or b

d. none of the above

87. Article 220 Branch-Circuit, Feeder, and Service Load Calculations 220.70 Energy Management Systems (EMSs). The setpoint value of the EMS shall be considered a _____ load for the purposes of load calculations.

a. non continuous

b. continuous

c. both a and b

d. none of the above

88. Article 220 Branch-Circuit, Feeder, and Service Load Calculations 220.70 Energy Management Systems (EMSs). A new section has been added to address the load calculations of energy management systems that is used to limit the current to a feeder or service in accordance with 750.30. When performing the load calculations, a single value equal to the _____ ampere

setpoint of the energy management system shall be permitted to be used in load calculations for the feeder or service.

- a. average
- b. minimum
- c. maximum
- d. none of the above

89. Article 225 Outside Branch Circuits and Feeders 225.41 Emergency Disconnects. For one-and two-family dwelling units, an emergency disconnecting means shall be installed. (A) General.

(1) Location. The disconnecting means shall be installed in a readily accessible outdoor location _____ of the dwelling unit.

- a. on
- b. within sight
- c. both a or b
- d. none of the above

90. Article 225 Outside Branch Circuits and Feeders 225.41 Emergency Disconnects. For one-and two-family dwelling units, an emergency disconnecting means shall be installed. (A) General. (2) Rating. The disconnecting means shall have a short-circuit current rating _____ the available fault current.

- a. equal to
- b. greater than
- c. both a or b
- d. none of the above

2023 NEC Changes Part 1-Quiz Answer Sheet

1	a b c d	31	a b c d	61	a b c d
2	a b c d	32	a b c d	62	a b c d
3	a b c d	33	a b c d	63	a b c d
4	a b c d	34	a b c d	64	a b c d
5	a b c d	35	a b c d	65	a b c d
6	a b c d	36	a b c d	66	a b c d
7	a b c d	37	a b c d	67	a b c d
8	a b c d	38	a b c d	68	a b c d
9	a b c d	39	a b c d	69	a b c d
10	a b c d	40	a b c d	70	a b c d
11	a b c d	41	a b c d	71	a b c d
12	a b c d	42	a b c d	72	a b c d
13	a b c d	43	a b c d	73	a b c d
14	a b c d	44	a b c d	74	a b c d
15	a b c d	45	a b c d	75	a b c d
16	a b c d	46	a b c d	76	a b c d
17	a b c d	47	a b c d	77	a b c d
18	a b c d	48	a b c d	78	a b c d
19	a b c d	49	a b c d	79	a b c d
20	a b c d	50	a b c d	80	a b c d
21	a b c d	51	a b c d	81	a b c d
22	a b c d	52	a b c d	82	a b c d
23	a b c d	53	a b c d	83	a b c d
24	a b c d	54	a b c d	84	a b c d
25	a b c d	55	a b c d	85	a b c d
26	a b c d	56	a b c d	86	a b c d
27	a b c d	57	a b c d	87	a b c d
28	a b c d	58	a b c d	88	a b c d
29	a b c d	59	a b c d	89	a b c d
30	a b c d	60	a b c d	90	a b c d

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